

Image 1757

A/P

## FEE TRANSMITTAL

## for FY 2004

Patent fees are subject to annual revision.



TOTAL AMOUNT OF PAYMENT (\$ 620.00

## Complete if Known

Application Number	09/830,794
Confirmation Number	3673
Filing Date	May 1, 2001
First Named Inventor	Pramod Kakumanu Reddy
Examiner Name	Charles I. Boyer
Art Unit	1751

Attorney Docket No. 7332

## METHOD OF PAYMENT

## FEE CALCULATION (continued)

1.  The Director is hereby authorized to charge indicated fees submitted on this form, credit any over payments, and charge any additional fee(s) during the pendency of this application to:

Deposit Account Number: 16-2480

Deposit Account Name: The Procter &amp; Gamble Company

## 3. ADDITIONAL FEES

Code	(\$)	Fee Description	Fee Paid
1051	130	Surcharge-late filing fee or oath	<input type="checkbox"/>
1052	50	Surcharge-late provisional filing fee or cover sheet	<input type="checkbox"/>
1053	130	Non-English specification	<input type="checkbox"/>
1812	2,520	For filing a request for <i>ex parte</i> reexamination	<input type="checkbox"/>
1804	920*	Requesting publication of SIR prior to Examiner's action <input type="checkbox"/>	
1805	1,840*	Requesting publication of SIR after Examiner's action <input type="checkbox"/>	
1251	110	Extension for reply within 1 <sup>st</sup> month	<input type="checkbox"/>
1252	420	Extension for reply within 2 <sup>nd</sup> month	<input type="checkbox"/>
1253	950	Extension for reply within 3 <sup>rd</sup> month	<input type="checkbox"/>
1254	1,480	Extension for reply within 4 <sup>th</sup> month	<input type="checkbox"/>
1255	2,010	Extension for reply within 5 <sup>th</sup> month	<input type="checkbox"/>
1401	330	Notice of Appeal	<input type="checkbox"/>
1402	330	Filing a brief in support of an appeal	<input checked="" type="checkbox"/>
1403	290	Request for oral hearing	<input checked="" type="checkbox"/>
1451	1,510	Petition to institute a public use proceeding	<input type="checkbox"/>
1452	110	Petition to revive - unavoidable	<input type="checkbox"/>
1453	1,330	Petition to revive - unintentional	<input type="checkbox"/>
1501	1,330	Utility issue fee (or reissue)	<input type="checkbox"/>
1502	480	Design issue fee	<input type="checkbox"/>
1460	130	Petitions to the Commissioner	<input type="checkbox"/>
1807	50	Processing fee under 37 C.F.R. 1.17(q)	<input type="checkbox"/>
1806	180	Submission of Information Disclosure Statement	<input type="checkbox"/>
1809	770	Filing a submission after final rejection (37 CFR § 1.129(a))	<input type="checkbox"/>
1810	770	For each additional invention to be examined (37 CFR § 1.129(b))	<input type="checkbox"/>
1801	770	Request for Continued Examination (RCE)	<input type="checkbox"/>
1802	900	Request for expedited examination of a design application	<input type="checkbox"/>
1454	1330	Acceptance of unintentionally delayed claim for priority under 35 U.S.C. 119, 120, 121, or 365 (a) or (c)	<input type="checkbox"/>
Other fee (specify) _____			<input type="checkbox"/>
Other fee (specify) _____			<input type="checkbox"/>

SUBTOTAL (2) (\$ 620)

\* Reduced by Basic Filing Fee Paid

SUBTOTAL(3) (\$ [620]

## SUBMITTED BY

Name (Print/Type)	Armina E. Matthews	Registration No. (Attorney/Agent)	43,780	Complete (if applicable)
Signature			Date	April 6, 2004

+ This collection of information is required by 37 CFR 1.17. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 12 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon individual case. Any comments on the amount of time you are required to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P. O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.



I hereby certify that this correspondence is being deposited with the United States Postal Service as first class mail in an envelope addressed to: Mail Stop Appeal Brief - Patents, Commissioner for Patents, P. O. Box 1450, Alexandria, VA 22313-1450 on April 6, 2004	
Armina E. Matthews	43,780
Name of Attorney	Registration No.

P&G Case 7332

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In the application of

Pramod Kakumanu Reddy, *et al*

: Confirmation No. 3673

Serial No. 09/830,794

: Group Art Unit: 1751

Filed: May 1, 2001

: Examiner: Charles I. Boyer

For HYDROPHILIC INDEX FOR AQUEOUS, LIQUID LAUNDRY DETERGENT  
COMPOSITIONS CONTAINING LAS

BRIEF ON APPEAL

Mail Stop Appeal Brief - Patents  
Commissioner for Patents  
P. O. Box 1450  
Alexandria, VA 22313-1450

Dear Sir:

Enclosed, pursuant to 37 C.F.R. 1.192(a), is Appellant's brief on Appeal for the above application. The Brief is being forwarded in triplicate.

The fee for this Brief on Appeal is \$330.00 37 CFR 1.17(c).

The Director is hereby authorized to charge the above fee, or any additional fees that may be required, or credit any overpayment to Deposit Account No. 16-2480 in the name of The Procter & Gamble Company. A duplicate copy of this sheet is enclosed.

Respectfully submitted,

By   
Armina E. Matthews  
Attorney for Applicant(s)  
Registration No. 43,780  
(513) 627-4210

Date: April 6, 2004

Customer No. 27752

(BriefonAppealTrans.doc)  
(Last Revised 3/30/2004)

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Armina E. Matthews	43,780	
Name of Attorney/Agent	Registration No.	
		
Signature of Attorney		



P&G Case 7332

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In the application of

Pramod Kakumanu Reddy, *et al.*

Serial No. 09/830,794

Confirmation No. 3673

Filed: May 1, 2001

Appeal Number:

Group Art Unit: 1751

Examiner: Charles I. Boyer

For HYDROPHILIC INDEX FOR AQUEOUS, LIQUID LAUNDRY DETERGENT  
COMPOSITIONS CONTAINING LAS

REQUEST FOR ORAL HEARING BEFORE THE BOARD OF  
PATENT APPEALS AND INTERFERENCES

Mail Stop AF

Commissioner for Patents

P. O. Box 1450

Alexandria, VA 22313-1450

Dear Sir:

Applicant hereby requests an oral hearing before the Board of Patent Appeals and Interferences in the appeal of the above-identified application.

The fee for this Request for Oral Hearing is \$290.00 (37 CFR 1.17(d)).

The Director is hereby authorized to charge the above fees, or any additional fees that may be required, or credit any overpayment to Deposit Account No. 16-2480 in the name of The Procter & Gamble Company. An additional copy of this paper is enclosed.

Respectfully submitted,

By   
 Armina E. Matthews  
 Attorney for Applicant(s)  
 Registration No. 43,780  
 (513) 627-4210

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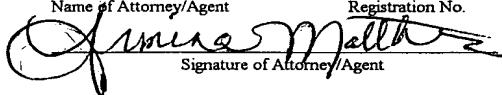
Date: April 6, 2004

Customer No. 27752

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 (Last Revised 10/10/2003)



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Armina E. Matthews 43,780  
Name of Attorney/Agent Registration No.  
  
Signature of Attorney/Agent

Case 7332

**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE**

In the Application of: : **BEFORE THE BOARD OF APPEALS**  
Pramod Kakumanu Reddy, *et al.* : Group Art Unit: 1751  
Serial No.: 09/830,794 : Examiner: Charles I. Boyer  
Filed: May 1, 2001 :  
Confirmation No.: 3673 :  
For HYDROPHILIC INDEX FOR AQUEOUS, LIQUID LAUNDRY DETERGENT  
COMPOSITIONS CONTAINING LAS

**APPEAL BRIEF**

Mail Stop Appeal Brief - Patents  
Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

Dear Sir:

Appellants appealed to the Board of Appeals by filing a Notice of Appeal, dated January 6, 2004 from the final rejection of Claims 11 through 30, as contained in the final Office Action dated October 6, 2003 (No paper number indicated) of the Examiner. The Commissioner is hereby authorized to charge any necessary fees to Deposit Account No. 16-2480. This Appeal Brief is being submitted in triplicate.

**(1) REAL PARTY IN INTEREST**

The real party in interest is The Procter & Gamble Company, a corporation of The State of Ohio, having a place of business at Cincinnati, Ohio 45202.

**(2) RELATED APPEALS AND INTERFERENCES**

There are no known related appeals or interferences.

**(3) STATUS OF CLAIMS**

Claims 11-30 are pending and have been appealed. A copy of the appealed Claims 11-30 is attached as APPENDIX I.

**(4) STATUS OF AMENDMENTS**

All amendments have been entered.

**(5) SUMMARY OF INVENTION**

The present invention relates to heavy duty liquid laundry detergent compositions containing a surfactant system and a polymer. The surfactant system contains from about 0.1% to about 20%, by weight of the surfactant system of an alkyl benzene sulfonate surfactant and has a Hydrophilic Index (HIC) of from about 8.0 to about 9.2. The polymer is selected from modified polyamines, polyamide-polyamines, polyethoxylated-polyamines, and mixtures thereof. The selection of the Hydrophilic Index, surfactant, and polymer allow for a laundry detergent composition with superior cleaning benefits.

**(6) ISSUES**

- (A) Are Claims 11-13, 16-19, 21-26, and 28-30 novel, non-obvious and patentable over U.S. 5,883,065 under 35 U.S.C. § 102(e) and 103(a)?
- (B) Are Claims 11-13, 15-19, and 21-30 novel, non-obvious and patentable over U.S. 5,955,415 under 35 U.S.C. § 102(e) and 103(a)?
- (C) Are Claims 11-30 non-obvious and patentable over U.S. 6,008,181?

Copies of the references are attached as APPENDIX II.

**(7) GROUPING OF CLAIMS**

Claims 11-30 stand or fall together.

**(8) ARGUMENT**

- (A) Are Claims 11-13, 16-19, 21-26, and 28-30 novel, non-obvious and patentable over U.S. 5,883,065 under 35 U.S.C. § 102(e) and 103(a)?

Claims 11-13, 16-19, 21-26 and 28-30 remain rejected under 35 U.S.C. § 102(e) as anticipated by, or in the alternative, under 35 U.S.C. § 103(a) as obvious over U.S. 5,883,065 ("US '065"). Appellants respectfully traverse this rejection.

US '065 discloses detergent compositions containing a detergents surfactant which includes a nonionic surfactant and an electrolyte in one phase and water in a separate phase. *See, e.g.* US '065 Abstract. It is an object of US '065 to provide a composition that provides superior cleaning and stain removal results because the emulsified detergent composition provides separation of the water and surfactant phases in a low water wash system over a broad temperature range and allows for cleaning below the cloud point of the surfactant system. *See, e.g., Abstract.* The US '065 compositions may contain water-soluble amine. *See, e.g., Col. 4, lines 29-33.*

In contrast, the present invention relates to a heavy-duty liquid laundry detergent composition comprising a surfactant system which contains from about 0.1% to about 20% of an alkyl benzene sulfonate surfactant, wherein the surfactant system has a Hydrophilic Index,  $HI_C$  of from about 8.0 to about 9.2, wherein

$$HI_C = \sum_y (\text{weight \% of surfactant } y \text{ in the surfactant system}) \times (HI_{Sy})$$

where  $HI_{Sy}$  is calculated for each of the surfactants in the surfactant system as follows:

$$HI_{Sy} = 20 \times (\text{the molecular weight of the hydrophilic portion of surfactant component } y) / (\text{the molecular weight of surfactant component } y)$$

and also contains a polymer selected from modified polyamines, polyamide-polyamines, polyethoxylated-polyamines, and mixtures thereof.

US '065 does not teach or suggest a surfactant system having a  $HI_C$  of from about 8.0 to about 9.2. Furthermore, US '065 provides no teaching or suggestion that any particular  $HI_C$  value would be useful for any particular purpose, much less teaching or suggesting that an  $HI_C$  of from about 8.0 to about 9.2 in combination with from about 0.1% to about 20% of an alkyl benzene sulfonate surfactant and a polymer selected from modified polyamines, polyamide-polyamines, polyethoxylated-polyamines, and mixtures thereof, would provide improved cleaning.

There is no teaching or suggestion in US '065 of how to calculate the  $HI_C$  value or that selection of such a value would be of importance to cleaning capability. US '065 teaches numerous compositions that are phase separated and have different ranges of surfactants and other materials but there is no mention of selecting an  $HI_C$  value of between about 8.0 and 9.2, or any other  $HI_C$  value. Furthermore, the  $HI_C$  values of the US '065 examples would be significantly above the  $HI_C$  required by the present invention.

In addition to there being no teaching or suggestion in US '065 of compositions that have a Hydrophilic Index of from about 8.0 to about 9.2, the Office Action is improperly using hindsight to reject the claims as obvious. Hindsight cannot be used to reject the claims as obvious. *In re Sernaker*, 702 F.2d 989, 994 (Fed. Cir. 1983); *In re Rinehart*, 531 F.2d 1048 (CCPA 1976); *In re Imperato*, 486 F.2d 585 (CCPA 1973); *In re Adams*, 356 F.2d 998 (CCPA 1966). It is legally improper to select from the prior art the separate components of the inventor's combination, using the blueprint supplied by the inventor. *C.R. Bard Inc. v. M3 Systems, Inc.*, 157 F.3d 1340, 1352 (Fed. Cir. 1998) citing *Fromson v. Advance Offset Plate, Inc.*, 755 F.2d 1549, 1556 (Fed. Cir. 1985) (holding the prior art must suggest to one of ordinary skill in the art the desirability of the claimed combination). The Office Action picks and chooses compositions from the vast disclosure of US '065 and then imputes a Hydrophilic Index which is nowhere taught or suggested, in order to reject the

claims. This selecting of claim elements results from hindsight and cannot be used, especially in combination with erroneous assumptions of the Hydrophilic Index, to reject the claims as obvious.

Based on the above arguments, the Office Action has failed to establish a *prima facie* case of obviousness. Therefore, Appellants respectfully submit that the presently claimed invention is novel, non-obvious and patentable over US '065 under 35 U.S.C. § 102(e) and 103(a). Appellants respectfully request reversal of this rejection.

**(B) Are Claims 11-13, 15-19, and 21-30 novel, non-obvious and patentable over U.S. 5,955,415 under 35 U.S.C. § 102(e) and 103(a)?**

Claims Claims 11-13, 15-19, and 21-30 remain rejected under 35 U.S.C. § 102(e) as anticipated by, or in the alternative, under 35 U.S.C. § 103(a) as obvious over U.S. 5,955,415 ("US '415"). Appellants respectfully traverse this rejection.

US '415 discloses detergent compositions, essentially free of chlorine bleach compounds, containing a surfactant, builder, enzyme, peroxygen bleach and from about 0.001% to about 5% of polyethyleneimine or salts thereof. *See, e.g.*, Abstract. It is an object of US '415 to provide a composition that has enhanced peroxygen bleach stability. *See, e.g.*, Col. 4, lines 42-49.

In contrast, the present invention relates to a heavy-duty liquid laundry detergent composition comprising a surfactant system which contains from about 0.1% to about 20% of an alkyl benzene sulfonate surfactant, wherein the surfactant system has a Hydrophilic Index,  $HI_C$  of from about 8.0 to about 9.2, wherein

$$HI_C = \sum_y (\text{weight \% of surfactant } y \text{ in the surfactant system}) \times (HI_{Sy})$$

where  $HI_{Sy}$  is calculated for each of the surfactants in the surfactant system as follows:

$$HI_{Sy} = 20 \times (\text{the molecular weight of the hydrophilic portion of surfactant component } y) / (\text{the molecular weight of surfactant component } y)$$

and also contains a polymer selected from modified polyamines, polyamide-polyamines, polyethoxylated-polyamines, and mixtures thereof.

US '415 does not teach or suggest a surfactant system having a  $HI_C$  of from about 8.0 to about 9.2. US '415 does not teach or suggest a surfactant system containing a polymer selected from modified polyamines, polyamide-polyamines, polyethoxylated-polyamines, and mixtures thereof. Furthermore, US '415 provides no teaching or suggestion that any particular  $HI_C$  value would be useful for any particular purpose, much less teaching or suggesting that an  $HI_C$  of from about 8.0 to about 9.2 in combination with from about 0.1% to about 20% of an alkyl benzene sulfonate

surfactant and a polymer selected from modified polyamines, polyamide-polyamines, polyethoxylated-polyamines, and mixtures thereof, would provide improved cleaning.

There is no teaching or suggestion in US '415 of how to calculate an  $HI_C$  value or that selection of such a value would be of importance to cleaning capability. US '415 teaches numerous compositions that include bleaching materials and do or do not contain other materials such as phosphorous, chlorine bleach, and peroxygen bleach. Such compositions have different ranges of surfactants and other materials but there is no teaching of an  $HI_C$  value of between about 8.0 and 9.2, or any other  $HI_C$  value.

In addition to there being no teaching or suggestion in US '415 of compositions that have a Hydrophilic Index of from about 8.0 to about 9.2 or the polymer of the present invention, the Office Action is improperly using hindsight to reject the claims as obvious. As stated above, hindsight cannot be used to reject the claims as obvious. *In re Sernaker*, 702 F.2d 989, 994 (Fed. Cir. 1983); *In re Rinehart*, 531 F.2d 1048 (CCPA 1976); *In re Imperato*, 486 F.2d 585 (CCPA 1973); *In re Adams*, 356 F.2d 998 (CCPA 1966). It is legally improper to select from the prior art the separate components of the inventor's combination, using the blueprint supplied by the inventor. *C.R. Bard Inc. v. M3 Systems, Inc.*, 157 F.3d 1340, 1352 (Fed. Cir. 1998) citing *Fromson v. Advance Offset Plate, Inc.*, 755 F.2d 1549, 1556 (Fed. Cir. 1985) (holding the prior art must suggest to one of ordinary skill in the art the desirability of the claimed combination). The Office Action picks and chooses compositions from the vast disclosure of US '415 and then imputes a Hydrophilic Index which is nowhere taught or suggested, in order to reject the claims. This selecting of claim elements results from hindsight and cannot be used, especially in combination with erroneous assumptions of the Hydrophilic Index, to reject the claims as obvious.

Based on the above arguments, the Office Action has failed to establish a *prima facie* case of obviousness. Therefore, Appellants respectfully submit that the presently claimed invention is novel, non-obvious and patentable over US '415 under 35 U.S.C. § 102(e) and 103(a). Appellants respectfully request reversal of this rejection.

**(C) Are Claims 11-30 non-obvious and patentable over U.S. 6,008,181?**

Claims 11-30 remain rejected under 35 U.S.C. § 103(a) as obvious over U.S. 6,008,181 ("US '181"). Appellants respectfully traverse this rejection.

US '181 discloses mid-chain branched primary alkyl alkoxyolated sulfate surfactants useful in laundry and cleaning compositions, including liquid detergent compositions. *See, e.g.*, Abstract. Such alkyl alkoxyolated sulfate surfactants may be used in combination with other surfactants. *See, e.g.*, Abstract. It is an object of US '181 to provide improved surfactant systems, especially for use in laundry processes including low water temperature wash conditions. *See, e.g.*, Abstract.

In contrast, the present invention relates to a heavy-duty liquid laundry detergent composition comprising a surfactant system which contains from about 0.1% to about 20% of an alkyl benzene sulfonate surfactant, wherein the surfactant system has a Hydrophilic Index,  $HI_C$  of from about 8.0 to about 9.2, wherein

$$HI_C = \sum_y (\text{weight \% of surfactant } y \text{ in the surfactant system}) \times (HI_{Sy})$$

where  $HI_{Sy}$  is calculated for each of the surfactants in the surfactant system as follows:

$$HI_{Sy} = 20 \times (\text{the molecular weight of the hydrophilic portion of surfactant component } y) / (\text{the molecular weight of surfactant component } y)$$

and also contains a polymer selected from modified polyamines, polyamide-polyamines, polyethoxylated-polyamines, and mixtures thereof.

US '181 does not teach or suggest a surfactant system having a  $HI_C$  of from about 8.0 to about 9.2 in combination with from about 0.1% to about 20% of an alkyl benzene sulfonate surfactant and a polymer selected from modified polyamines, polyamide-polyamines, polyethoxylated-polyamines, and mixtures thereof. Furthermore, US '181 provides no teaching or suggestion that any particular  $HI_C$  value would be useful for any particular purpose, much less teaching or suggesting that an  $HI_C$  of from about 8.0 to about 9.2 in combination with from about 0.1% to about 20% of an alkyl benzene sulfonate surfactant and a polymer selected from modified polyamines, polyamide-polyamines, polyethoxylated-polyamines, and mixtures thereof, would provide improved cleaning.

There is no teaching or suggestion in US '181 of how to calculate an  $HI_C$  value or that selection of such a value would be of importance to cleaning capability. US '181 teaches numerous compositions that include a variety of surfactants, amine polymers and other cleaning adjuncts. Such compositions have different ranges of surfactants and other materials but there is no teaching of the selection of an  $HI_C$  value of between about 8.0 and 9.2.

In addition to there being no teaching or suggestion in US '181 of the selection of a Hydrophilic Index of from about 8.0 to about 9.2, the Office Action is improperly using hindsight to reject the claims as obvious. As stated above, hindsight cannot be used to reject the claims as obvious. *In re Sernaker*, 702 F.2d 989, 994 (Fed. Cir. 1983); *In re Rinehart*, 531 F.2d 1048 (CCPA 1976); *In re Imperato*, 486 F.2d 585 (CCPA 1973); *In re Adams*, 356 F.2d 998 (CCPA 1966). It is legally improper to select from the prior art the separate components of the inventor's combination, using the blueprint supplied by the inventor. *C.R. Bard Inc. v. M3 Systems, Inc.*, 157 F.3d 1340, 1352 (Fed. Cir. 1998) citing *Fromson v. Advance Offset Plate, Inc.*, 755 F.2d 1549, 1556 (Fed. Cir. 1985) (holding the prior art must suggest to one of ordinary skill in the art the desirability of the claimed combination). The Office Action picks and chooses compositions from the vast disclosure of US '181

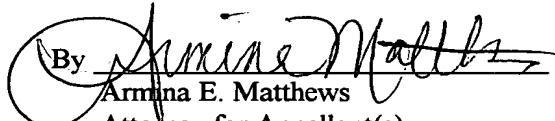
and then imputes a selection of a Hydrophilic Index range which is nowhere taught or suggested, in order to reject the claims. This selecting of claim elements results from hindsight and cannot be used to reject the claims as obvious.

Based on the above arguments, the Office Action has failed to establish a prima facie case of obviousness. Therefore, Appellants respectfully submit that the presently claimed invention is non-obvious and patentable over US '181 under 103(a). Appellants respectfully request reversal of this rejection.

In view of the foregoing remarks, it is respectfully submitted that all of claims 11-30 are allowable. Accordingly, Appellants respectfully request reversal of all rejections.

Respectfully submitted,

P. K REDDY, ET AL.

By   
Armina E. Matthews  
Attorney for Appellant(s)  
Registration No. 43,780  
(513) 627-4210

Dated: April 6, 2004  
Customer No. 27752

## APPENDIX I

### Appealed Claims – Case 7332

#### Claims 1-10 (previously cancelled)

11. A heavy duty liquid laundry detergent composition comprising a surfactant system, and a polymer, wherein:

- a) the polymer is selected from the group consisting of modified polyamines, polyamide-polyamines, polyethoxylated-polyamines, and mixtures thereof; and
- b) the surfactant system comprises from about 0.1% to about 20%, by weight of the surfactant system of an alkyl benzene sulfonate surfactant, and wherein the surfactant system has a Hydrophilic Index,  $HI_C$ , of from about 8.0 to about 9.2, wherein

$$HI_C = \sum_y (\text{weight \% of surfactant } y \text{ in the surfactant system}) \times (HI_{Sy})$$

where  $HI_{Sy}$  is calculated for each of the surfactants in the surfactant system as follows:

$$HI_{Sy} = 20 \times (\text{the molecular weight of the hydrophilic portion of surfactant component } y) / (\text{the molecular weight of surfactant component } y).$$

12. A heavy duty liquid laundry detergent composition according to Claim 11 wherein surfactant system comprises surfactants selected from the group consisting of non-soap anionic, nonionic, cationic, amphoteric, amine, poly hydroxy fatty acid amines and mixtures thereof.

13. A heavy duty liquid laundry detergent composition according to Claim 11 further comprising a deteritive amount of an enzyme selected from the group consisting of alkaline protease, mannanase,  $\alpha$ -amylase variants, and mixtures thereof, by weight of the detergent composition of the pure enzyme.

14. A heavy duty liquid laundry detergent composition according to Claim 11, further comprising from about 2% to about 15% by weight of the composition of a fatty acid.

15. A heavy duty liquid laundry detergent composition according to Claim 11, wherein the surfactant system comprises from 10% to about 40%, by weight of the composition.

16. A heavy duty liquid laundry detergent composition according to Claim 12, wherein the detergent composition additionally comprises adjunct ingredients selected from the group consisting of non-citrate builders, optical brighteners, soil release polymers, dye transfer inhibitors, polymeric dispersing agents, additional enzymes, suds suppressers, dyes, perfumes, colorants, filler salts, hydrotropes, antiredeposition agents, antifading agent, chelants, dye fixative agents, prill/fuzzing reducing agents, and mixtures thereof.
17. A heavy duty liquid laundry detergent composition according to Claim 11, wherein the detergent composition comprises no additional surfactants beyond those in the surfactant system.
18. A heavy duty liquid laundry detergent composition according to Claim 11, wherein the detergent composition additionally comprises a structurant which is present at from about 2.0% to about 6.0%, by weight of the composition.
19. A heavy duty liquid laundry detergent composition according to Claim 18, wherein the structurant is selected from the group consisting of carboxylates, polycarboxylates, amino carboxylates, polycarboxylates, carbonates, bicarbonates, phosphates, phosphonates and mixtures thereof.
20. A heavy duty liquid laundry detergent composition according to Claim 11, further comprising sodium sulfate present at from about 1.0% to about 5.0%, by weight of the detergent composition.
21. A heavy duty liquid laundry detergent composition according to Claim 11, further comprising a citrate builder.
22. A heavy duty liquid laundry detergent composition according to Claim 11, wherein the surfactant system has a Hydrophilic Index,  $HI_C$  of from about 8.2 to about 9.1.
23. A heavy duty liquid laundry detergent composition according to Claim 11, wherein the surfactant system has a Hydrophilic Index,  $HI_C$  of from about 8.4 to about 9.0.
24. A heavy duty liquid laundry detergent composition according to Claim 13, wherein the enzyme is present in an amount of from about 0.0001% to about 1.5%.

25. A heavy duty liquid laundry detergent composition according to Claim 13, wherein the enzyme is present in an amount of from about 0.00018% to about 1.0%.

26. A heavy duty liquid laundry detergent composition according to Claim 13, wherein the enzyme is present in an amount of from about 0.00024% to about 0.5%.

27. A heavy duty liquid laundry detergent composition according to Claim 15, wherein the surfactant system comprises from about 12% to about 35%.

28. A heavy duty liquid laundry detergent composition according to Claim 15, wherein the surfactant system comprises from about 15% to about 32%.

29. A heavy duty liquid laundry detergent composition comprising:

- a) a polymer selected from the group consisting of modified polyamines, polyamide-polyamines, polyethoxylated-polyamines, and mixtures thereof; and
- b) a surfactant system, wherein the surfactant system comprises from about 0.5% to about 19%, by weight of the surfactant system of an alkyl benzene sulfonate surfactant, and wherein the surfactant system has a Hydrophilic Index,  $HI_C$ , of from about 8.0 to about 9.2, wherein

$$HI_C = \sum_y (\text{weight \% of surfactant } y \text{ in the surfactant system}) \times (HI_{Sy})$$

where  $HI_{Sy}$  is calculated for each of the surfactants in the surfactant system as follows:

$$HI_{Sy} = 20 \times (\text{the molecular weight of the hydrophilic portion of surfactant component } y) / (\text{the molecular weight of surfactant component } y).$$

30. A heavy duty liquid laundry detergent composition comprising:

- a) a polymer selected from the group consisting of modified polyamines, polyamide-polyamines, polyethoxylated-polyamines, and mixtures thereof; and
- b) a surfactant system, wherein the surfactant system comprises from about 1% to about 18%, by weight of the surfactant system of an alkyl benzene sulfonate surfactant, and wherein the surfactant system has a Hydrophilic Index,  $HI_C$ , of from about 8.0 to about 9.2, wherein

$$HI_C = \sum_y (\text{weight \% of surfactant } y \text{ in the surfactant system}) \times (HI_{Sy})$$

where  $HI_{Sy}$  is calculated for each of the surfactants in the surfactant system as follows:

$HI_{Sy} = 20 \times (\text{the molecular weight of the hydrophilic portion of surfactant component } y) / (\text{the molecular weight of surfactant component } y)$ .